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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/694,243	10/27/2003	Gang Bao	17625-0058	3739

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EXAMINER

JONES, DAMERON LEVEST

ART UNIT	PAPER NUMBER
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1618

DATE MAILED: 02/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/694,243	<b>Applicant(s)</b> BAO ET AL.	
	<b>Examiner</b> D. L. Jones	<b>Art Unit</b> 1618	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 09 November 2005 and 13 June 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-94 is/are pending in the application.
- 4a) Of the above claim(s) 53-86 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8, 11-19, 21-27, 30-37, 40-45, 47-52, 87, 89-91, 93 and 94 is/are rejected.
- 7) ☒ Claim(s) 9, 10, 20, 28, 29, 38, 39, 46, 88 and 92 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **ACKNOWLEDGMENTS**

1. The Examiner acknowledges receipt of the amendment filed 6/13/05 wherein claims 26, 30, 31, 43, and 70 were amended.

**Note:** Claims 1-94 are pending.

## **APPLICANT'S INVENTION**

2. The instant invention is directed to nanoparticle probes as set forth in independent claims 1, 26, 52, 53, 70, and 87.

## **APPLICANT'S ELECTION**

3. Applicant's election with traverse of Group I filed 11/9/05 is acknowledged. The traversal is on the grounds that Groups I-V and VIII require essentially the same components. This is found persuasive; thus, Groups I-V and VIII will be examined together. It is noted that only Groups I-V and VIII were traversed; therefore, the remaining Groups 6, 7, and 9 have been viewed as an election without traverse. Hence, the remaining groups of the restriction requirement are still deemed proper and is therefore made FINAL.

## **WITHDRAWN CLAIMS**

4. Claims 53-86 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention/species.

## 112 SECOND PARAGRAPH REJECTIONS

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 6 and 24 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 6: Did Applicant intend the claim to depend from claim 5? In particular, the claim is confusing because claim 5 is directed to a polypeptide, not an antibody as set forth in claim 6.

Claim 24: line 3: The phrase 'transfer donor or acceptor' is confusing because it is unclear what moieties Applicant is claiming to be compatible with the instant invention.

## 103 REJECTIONS

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 1-8, 11-19, 21-27, 30-37, 40-45, 47-52, 87, 89-91, 93, and 94 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kresse et al (US Patent No. 6,576,221).

**Kress et al** disclose iron-containing nanoparticles having a double coating. The nanoparticles are useful for diagnostic and therapeutic purposes. The nanoparticles consist of an iron containing core, a primary coat (polymer), a secondary coating (targeting polymer), and optionally adjuvants, pharmaceuticals, and/or adsorption mediators/enhancers (see entire document, especially, abstract; columns 4-5, bridging paragraph; column 5, lines 21-40). The iron-containing core has a magnetic moment greater than that of iron (II) or iron(III) ions. Hence, the iron-containing core facilitates the contrast enhancing effect when the substance is used as a contrast material for magnetic resonance tomography (column 5, lines 60-68). The iron-containing core may consist or contain magnetite or maghemite (column 6, lines 3-4). Preferred adsorption mediators/enhancers include peptides (column 6, lines 52-56). Complexing and chelating agents may be utilized with the invention of Kress et al (column 10, lines 20-47). Paramagnetic metals such as gadolinium, manganese, lithium, magnesium, or calcium may be used to generate the iron containing nanoparticles (columns 11-12, bridging paragraph). Possible targeting agents include proteins, peptides, polypeptides, antibodies, antibody fragments, oligonucleotides, DNA, and RNA (column 14, lines 43-60). The nanoparticle compositions may be used for various applications. Possible applications include tumor visualization, visualizing malfunctions of plaque (atherosclerosis imaging), thrombi, and vascular occlusions. In addition, the

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nanoparticle compositions may be use for magnetic resonance angiography, perfusion imaging, infarct visualization, as well as for differential diagnosis for distinguishing tumors/metastases from hyperplastic tissue (column 17, lines 5-17). Hence, it would have been obvious to one of ordinary skill in the art at the time the invention was made to generate a nanoparticle composition comprising a detectable moiety having a coating thereon, a targeting moiety attached to the coating, and a delivery ligand attached to the coating because Kresse et al disclose iron containing nanoparticle having a double coating that are useful for diagnostic and therapeutic purposes. Thus, both Applicant and Kresse et al disclose a product and method of making that product wherein the product comprises a coated detectable moiety and a targeting moiety and delivery ligand which are attached to the coating.

## **CLAIM OBJECTIONS**

9. Claims 9, 10, 28, 29, 38, 39, 46, 88, and 92 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

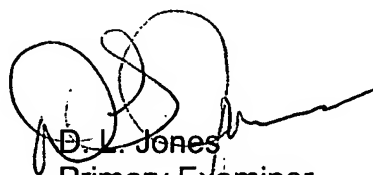
**Note:** The claims are distinguished over the prior art of record because the prior art neither anticipates nor renders obvious the additional limitations of the dependent claim in combination with their respective intervening claims.

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10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to D. L. Jones whose telephone number is (571) 272-0617. The examiner can normally be reached on Mon.-Fri., 6:45 a.m. - 3:15 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Hartley can be reached on (571) 272-0616. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



D. L. Jones  
Primary Examiner  
Art Unit 1618

February 2, 2006